MISSOURI DEPARTMENT OF NATURAL RESOURCES
ENERGY CENTER – ENERGY REVOLVING FUND

HEATING PLANT REPLACEMENT WORKSHEET

BUILDING	LOCATION	DATE

To estimate the savings possible from a heating plant replacement that is intended to increase the efficiency and/or change energy sources, the following information must be known:

The annual heating cost.
The efficiency of the existing heating plant (in percent).
The efficiency of the proposed heating plant (in percent).
The existing energy cost (cost per million Btu).
The proposed energy cost (cost per million Btu).

SAVINGS ESTIMATE

If the heating energy source is not used for any other purposes and the cost for heating the building is known, then skip lines 1 through 4 and enter that value on line 5. If the energy source supplies heating as well as other needs of the building, proceed with line 1.

1. Total the seven energy bills that heating is included in from October through April and enter that amount . . . $ _____
2. Enter the amount of the May energy bill that heating is included in . . . . . $ _____
3. Multiply 7.0 by line 2 . . . . . $ _____
4. Subtract line 3 from line 1 and enter this value on line 5 below.
5. ANNUAL HEATING COSTS . . . . . $ _____
6. Enter the efficiency of the existing heating plant (percent divided by 100) . . . . . _____
7. Multiply line 5 by line 6 . . . . . $ _____
8. Enter the efficiency of the proposed heating plant (percent divided by 100) . . . . . _____
9. Divide line 7 by line 8 . . . . . $ _____

If the proposed heating plant will use the same energy source as the existing one, skip lines 10 through 13 and enter the value from line 9 on line 14. If the energy sources for the proposed and existing plants are different, proceed with line 10.

10. Enter the existing energy cost ($/million Btu) . . . . . _____
11. Divide line 9 by line 10 . . . . . $ _____
12. Enter the proposed energy cost ($/million Btu) . . . . . _____
13. Multiply line 11 by line 12 and enter this value on line 14 below.
14. PROJECTED ANNUAL HEATING COSTS . . . . . $ _____

ANNUAL SAVINGS

15. Subtract line 14 from line 5 . . . . . $ _____/year

PROJECT COST

16. Enter the total cost for the proposed project including material, labor and design . . . . . $ _____

SIMPLE PAYBACK

17. Divide line 16 by line 15 . . . . . _____ years

DESCRIPTION PAGE

Heating Plant Replacement Energy - Conservation Measure

Describe the existing system and the proposed energy-conservation measure (use additional sheets if necessary):

MISSOURI DEPARTMENT OF NATURAL RESOURCES
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COOLING PLANT REPLACEMENT WORKSHEET

BUILDING	LOCATION	DATE

To estimate the savings possible from a cooling plant replacement that is intended to increase the efficiency and/or change energy sources, the following information must be known:

The annual cooling cost.
The efficiency of the existing cooling plant [SEER, EER, COP or (1/kw per ton)].
The efficiency of the proposed cooling plant [SEER, EER, COP or (1/kw per ton)]. (Use same rating as above.)
The existing energy cost (cost per million Btu).
The proposed energy cost (cost per million Btu).

SAVINGS ESTIMATE

If the cooling energy source is not used for any other purposes and the cost for cooling the building is known, then skip lines 1 through 4 and enter that value on line 5. If the energy source supplies cooling as well as other needs of the building, proceed with line 1.

1. Total the four energy bills that cooling is included in from June through September and enter that amount . . $ _____
2. Enter the amount of the May energy bill that cooling is included in . . . . . $ _____
3. Multiply 4.0 by line 2 . . . . . $ _____
4. Subtract line 3 from line 1 AND ENTER THIS VALUE ON LINE 5 BELOW.
5. ANNUAL COOLING COSTS . . . . . $ _____
6. Enter the SEER, EER, COP or (1/kw per ton) of the existing cooling plant . . . . . _____
7. Multiply line 5 by line 6 . . . . . $ _____
8. Enter the SEER, EER, COP or (1/kw per ton) of the proposed cooling plant (Use same rating as line 6.) . . . . . _____
9. Divide line 7 by line 8 . . . . . $ _____

If the proposed cooling plant will use the same energy source as the existing one, skip lines 10 through 13 and enter the value from line 9 on line 14. If the energy sources for the proposed and existing plants are different, proceed with line 10.

10. Enter the existing energy cost ($/million Btu) . . . . . _____
11. Divide line 9 by line 10 . . . . . $ _____
12. Enter the proposed energy cost ($/million Btu) . . . . . _____
13. Multiply line 11 by line 12 and ENTER THIS VALUE ON LINE 14 BELOW.
14. PROJECTED ANNUAL COOLING COSTS . . . . . $ _____

ANNUAL SAVINGS

15. Subtract line 14 from line 5 . . . . . $ _____/year

PROJECT COST

16. Enter the total cost for the proposed project including material, labor and design . . . . . $ _____

SIMPLE PAYBACK

17. Divide line 16 by line 15 . . . . . _____ years

DESCRIPTION PAGE

Cooling Plant Replacement Energy - Conservation Measure

Describe the existing system and the proposed energy-conservation measure (use additional sheets if necessary):